## ABSTRACT

A system for decontaminating a clean-room has an H<sub>2</sub>O<sub>2</sub> supply for supplying the clean-room with  $H_2O_2$  and an  $H_2O_2$ breakdown device for effecting a chemical breakdown of H2O2 without catalyst in the clean-room . The  ${\rm H}_2{\rm O}_2$  breakdown device comprises a supply vessel filled with gaseous agent which can be introduced via a gas line into the clean-room where it reacts with the H<sub>2</sub>O<sub>2</sub>. A valve is placed in the gas line with which the amount of the gaseous agent introduced into the clean-room can be introduced under open-loop or closed-loop control. Owing to the fact that the excess  $H_2O_2$ , that is to say the  $H_2O_2$  which has not reacted with other materials in the clean-room during the decontamination is broken down in the clean-room itself, it need not be flushed out completely from the clean-room first and broken down afterwards.